In-Vehicle Hands Free

RST 973

Installation
& User Manual

Suitable for Beam Remote Satellite Terminals
RST100, RST200 , RST310

Beam Communications Pty Ltd

In-Vehicle Hands Free
RST 973

Installation & User Manual

Suitable for Beam Remote Satellite Terminals

RST100, RST200 & RST610

Beam Communications Pty Ltd

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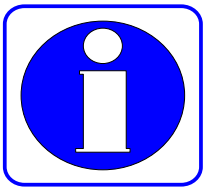

Note: This Device is only suitable for the following Beam Terminals:

- **RST100 (serial number 100AXXXX) Must be an 'A' in the serial number**
- **RST200 (serial number 200AXXXX) Must be an 'A' in the serial number**
- **RST310 All Models**
- **RST610 All Models**

Product name: RST 973 Installation & User Interface Manual

Manual Rev: 02
Part Number USRMAN001202
Release date: Feb 2007

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About BEAM Communications

Beam Communications, is an authorised manufacturer of Iridium Satellite products.

Beam develops subscriber products that utilise the Iridium satellite network of Low Earth Orbit satellites, known as LEOs. The Iridium network is extensively used around the world by commercial enterprises and defence agencies.

Beam products address the needs of individuals, communities, government agencies and the corporate sector, providing voice and data access without the need for traditional wire-line or mobile phone infrastructure.

As the Iridium satellite network is global, Beam's products address global markets, across the spectrum of rural and remote users, including households, motor vehicles, telemetry, maritime and emergency services.

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Introduction

This guide outlines the details for installing the Beam In-vehicle hands free unit in conjunction with a Beam Remote Satellite Terminal. This unit supports the Beam RST100, RST200, RST310 & RST610 Remote Satellite Terminal equipment, and should not be used with any other terminals other than those specified.

Features

Full In-vehicle Integration
The Beam In vehicle kit allows for a quality permanent installation to the vehicle. The antenna, microphone and speaker are simply installed in a convenient location within the vehicle following the instructions provided with the kit. The handset is simply installed in a cradle or secure location ready for use.

Functionality
The major advantage of an in-vehicle kit is the hands-free use along with the permanently installed antenna for increased call quality and signal penetration.
The Intelligent Handset will support all the standard functionality whilst being used with the Beam In-vehicle kit.

Intelligent Handset Interface
The In-vehicle kit supports the Beam Intelligent Handset, RST970. The handset supports voice calls as well as utilizing the Iridium SMS service. The handset is compact and includes an inbuilt ring alert. The handset also enables a private in vehicle conversation.

RS232 Data Port
A RS232 serial data port is provided via the “Comm Port” allowing data calls, or tracking / alerting modules or a PC to be connected. Refer to the AT commands guide on the CDROM for modem commands.

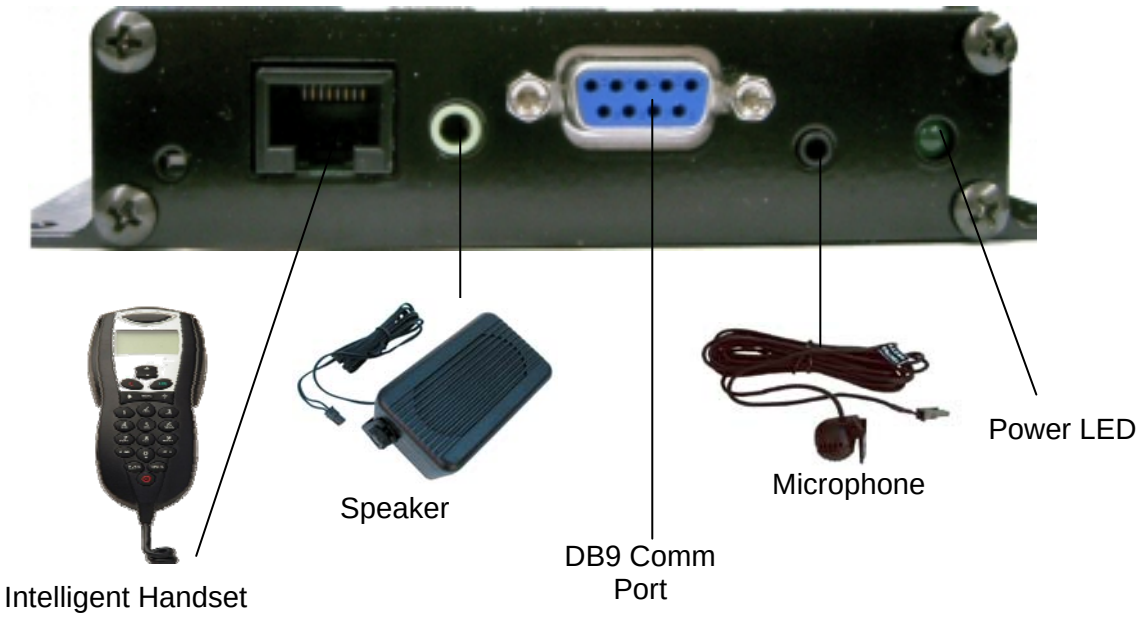
(Optional) Alert / Tracking Interface
The Beam TrackALERT terminals are an intelligent Alert / Tracking and Monitoring unit all-in-one and are available for all Beam terminals. TrackALERT allows the deployment of various applications including vehicle, asset, asset tracking, monitoring and condition reporting, remote control and configuration. Alert/Alarm monitoring applications are available.

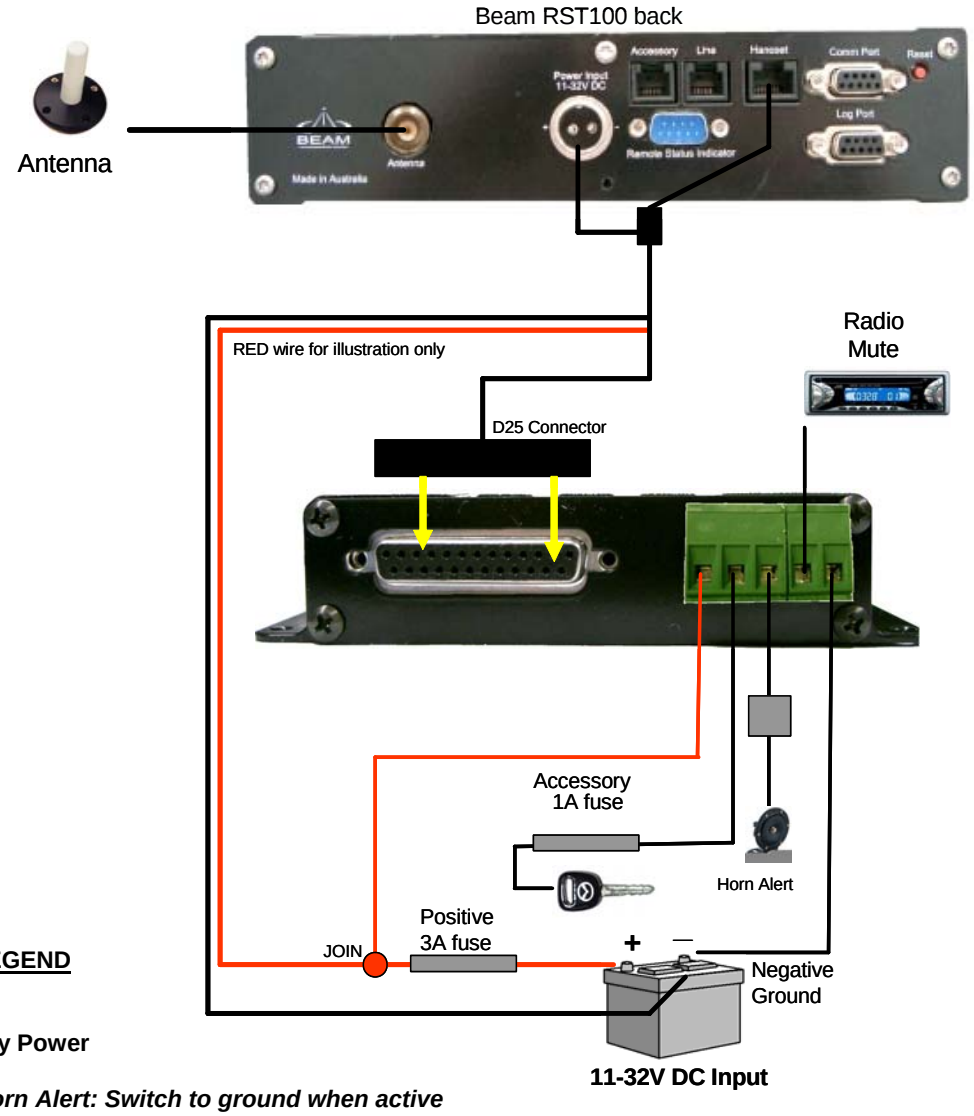
The TrackALERT interface is highly intelligent and the ability to configure many parameters in the terminal locally or remotely enables a great deal of customization and flexibility.

Key Features

Convenient Hands-free Operation
Supports Intelligent Handset
Horn Alert Integration
11-32V DC Input
Convenient Installation
Supports Voice & Data Services
Full Duplex Hands-free Operation
Echo Cancellation
Stereo Integration Possible
Supports DC Power Input

Installation Overview





ELECTRICAL LEGEND
RED = A+
Black = GND
Green = Auxiliary Power

Radio Mute & Horn Alert: Switch to ground when active

Safety Information

IMPORTANT: Read this information before using your Beam in vehicle hands free.

Exposure to Radio Frequency SignalsTe

Your wireless mobile telephone is a low power radio transmitter and receiver. When it is ON, it receives and also sends out radio frequency (RF) signals.

International agencies have set standards and recommendations for the protection of public exposure to RF electromagnetic energy.

- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1996
- Verband Deutscher Elektrotechniker (VDE) DIN-0848
- United States Federal Commission, Radio Frequency Exposure Guidelines (1996)
- National Radiological Protection Board of the United Kingdom, GS 11, 1988
- American National Standards Institute (ANSI) IEEE. C95. 1-1992

These standards are based on extensive scientific review. For example, over 120 scientists, engineers, and physicians from universities, government health agencies, and industry reviewed the available body of research to develop the updated ANSI standard.

Antenna Care

Use only the supplied or an approved replacement antenna. Unauthorized antennas, modifications, or attachments could damage the phone and may violate local agency regulations. Please refer to your Service Provider for further information.

Phone Operation

Do not operate your mobile telephone when a person is within 4 inches (10 centimeters) of the antenna. A person or object within 4 inches (10 centimeters) of the antenna could impair call quality and may cause the phone to operate at a higher power level than necessary and expose that person to RF energy in excess of that established by the FCC RF Exposure Guidelines.

Driving

Check the laws and regulations on the use of wireless telephones in the areas where you drive. Always obey them. Observe the following guidelines when using your phone while driving.

- Give full attention to driving—driving safely is your first responsibility.
- Use hands-free phone operation, if available.
- Pull off the road and park before making or answering a call if driving conditions so require.

Electronic Devices

Most modern electronic equipment is shielded from RF signals. However, certain equipment may not be shielded against the RF signals from your wireless phone.

Pacemakers

The Health Industry Manufacturers Association recommends that a minimum separation of six inches (6") be maintained between a wireless phone's antenna and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with the independent research by and recommendations of Wireless Technology Research.
Persons with pacemakers:

- Should ALWAYS keep the phone more than six inches from their pacemaker when phone is turned ON
- Should turn the phone OFF immediately if you have any reason to suspect interference is taking place

Other Medical Devices

If you use any other personal medical device, consult the manufacturer of your device to determine if it is adequately shielded from external RF energy. Your physician may be able to assist you in obtaining this information.

Turn your phone OFF in health care facilities when any regulations posted in these areas instruct you to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF energy.

Vehicles

RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles. Check with the manufacturer or its representative regarding your vehicle. You should also consult the manufacturer of any equipment that has been added to your vehicle.

Posted Facilities

Turn your phone OFF in any facility where posted notices so require.

Aircraft

Airline regulations prohibit using your phone while in the air. Consult the local Aviation Authority for guidelines on use of the equipment on board an aircraft.

Potentially Explosive Atmospheres

Turn your phone OFF and do not remove your battery when you are in any area with a potentially explosive atmosphere. Obey all signs and instructions. Sparks from your battery in such areas could cause an explosion or fire resulting in bodily injury or even death. Areas with a potentially explosive atmosphere are often but not always clearly marked. They include, but are not limited to: fueling areas such as gasoline stations; below deck on boats; fuel or chemical transfer or storage facilities; areas where fuel odors are present (for example, if a gas/propane leak occurs in a car or home); areas where the air contains chemicals or particles, such as grain, dust, or metal powders; and any other area where you normally would be advised to turn off your vehicle engine.

For Vehicles Equipped with an Air Bag

An air bag inflates with great force. Do NOT place objects, including both installed or portable wireless equipment, in the area over the air bag or in the air bag deployment area. If in-vehicle wireless equipment is improperly installed and the air bag inflates, serious injury could result.

Preparing for Installation

General Guidelines for Component Location

- Ensure that each mounting surface is strong enough to support the component being mounted to prevent the component from loosening over time.
- Select sites for mounting components that do not interfere with driver or passenger seating or leg space.
- Ensure that any wires or cable that attach to the item being mounted will not interfere with driver or passenger seating or leg space.
- Mount all components securely to prevent shifting that could cause injury or could interfere with safe vehicle operation. Always use the supplied mounting hardware.
- Only qualified personnel should install communication equipment. If necessary, contact the vehicle manufacturer for air bag information specific to the vehicle.

Caution: An air bag inflates with great force. DO NOT place objects, including communication equipment, in the area over the air bag or in the air bag deployment area. If the communication equipment is improperly installed and the air bag inflates, serious injury could occur.

Selecting a location for the Hands Free Interface

In many vehicles, the best location for these units is on the floor or the rear vertical panel of the trunk compartment. Alternate locations include under the dashboard, under the front or rear seat, or under the rear speaker deck panel.

Be sure that whatever location you choose meets these guidelines:

- The units must be protected from dirt and moisture.
- The space around the units is sufficient to allow for cooling.
- The units can be easily removed.
- The location allows for adequate clearances for cable

Caution: Always use the supplied mounting hardware for mounting the units. If not mounted properly, the transceiver may shift when the vehicle is moving, which can interfere with proper operation of the vehicle.

Performance of electronically controlled brake and/or guidance systems can, under certain unique conditions, be subject to interference by mobile radio operation. Although the transceiver meets or exceeds all requirements regarding radio frequency emissions, you should mount the transceiver as far as possible from the guidance system and/or braking modulator box (usually located in the trunk) to minimize any interference.

Selecting a Location for the Intelligent handset

When selecting a location for the handset and hang-up cup, consider these guidelines:

- Ensure that each mounting surface is strong enough to support the control unit.
- Mount the handset so that it is within easy reach of the driver during normal vehicle operation.
- Ensure that the handset is within reach of the RST973 interface-unit.
- Position the handset and cables so that it does not interfere with vehicle operation or with driver or passenger seating or leg space.

Selecting a Location for the Speaker

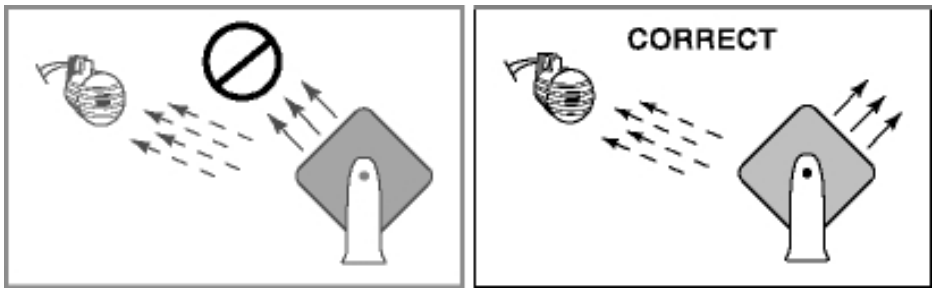
The speaker should be mounted under the dashboard, on the transmission hump, or in another suitable location, using the mounting bracket supplied with the speaker assembly.

When selecting a location for the speaker, consider these guidelines:

- Position the speaker so that it does not interfere with vehicle operation or with driver or passenger seating or leg space.

Avoid locating the speaker behind a sound-absorbing barrier (for example, facing upward under a seat or behind a dashboard panel).

Do NOT position the microphone where it will be affected by the output of the speaker:

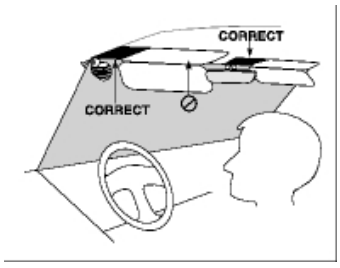


Selecting a Location for the Microphone

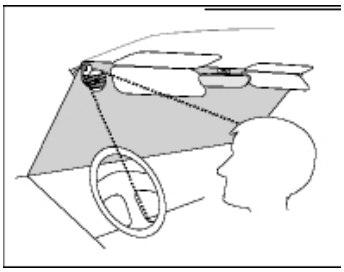
The hands-free directional microphone must be properly positioned in the vehicle to ensure optimum performance.

When selecting a location for the microphone, consider these guidelines:

- Mount the microphone near the centre of the vehicle, either on the driver-side sun visor or on the head-liner above the driver.
- Do not position the microphone where it may be blocked by the visor.

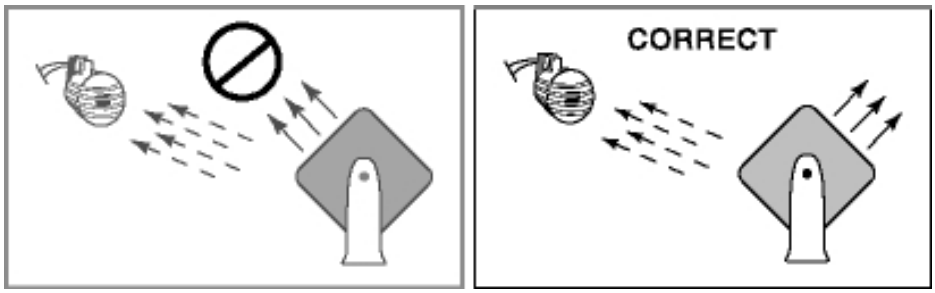


- Position the microphone so that it faces the user of the mobile when the user is seated normally.



Do NOT position the microphone near a window or in any location where road noise or any ambient background noise may be substantially high (above 85 dB SPL).

Do NOT position the microphone where it will be affected by the output of the speaker:



Guidelines for Routing Cables

Many vehicles are equipped with wiring troughs in the doorsills. If your vehicle includes this feature, use it to simplify cable installation and to provide maximum protection for the cables.

In vehicles without wiring troughs, route cables according to these guidelines: Route cables so they are protected from pinching, sharp edges, and crushing.

- Where possible, avoid routing cables above the catalytic converter.
- Use grommets wherever a cable must pass through a hole in a metal panel.
- In a vehicle equipped with electronically controlled anti-skid brakes, route all cables on the opposite side of the vehicle from the braking modulator box to minimize possible interference from the phone.
- Keep all in-line connectors accessible.

The suggested path for routing cables in vehicles without wiring troughs is alongside the drive shaft hump, under the carpet.

Wiring for Additional Features

Convenience On/Off Feature

The power cable includes a Green wire which, when connected to sense the status of the vehicle ignition, enables the user of the mobile to conveniently turn the phone on and off with the vehicle ignition. If required, the phone can be switched on even if the ignition has been switched off, by just switching on the power button on the intelligent handset.

Entertainment Mute Feature (optional)

The entertainment mute output connects to the mute input on your car radio, if the radio includes a mute function. The entertainment mute feature automatically mutes the radio when you place or receive a call. This feature needs to be integrated with a car radio that supports this functionality.

Note: This output signal from the “Mute” connector sinks a maximum of 100mA (0.1A) to ground.

Horn Alert (Ring) Feature (optional)

The horn Alert (Ring) output connects to the horn of the vehicle or other device for alerting when an incoming call is received on the terminal.

Local laws and regulations regarding the connection of Audible horn Alerts must be abided by. Please consult local authorities in your area prior to wiring in this feature.

Note: This output signal from the “Ring” connector sinks a maximum of 100mA (0.1A) to ground. Therefore it can only be used to drive a relay (maximum coil current of 100mA), which in turn activates the horn.

DO NOT connect this output directly to the horn.

Preliminary Testing

1. Unpack all components and assemble them on a service bench.

2. Position the antenna several meters from the other components to avoid potential interference.

3. Using a bench power supply in place of the vehicle battery, verify that all components are functioning properly.

Preparing for Installation

General Guidelines for Component Location

- Ensure that each mounting surface is strong enough to support the component being mounted to prevent the component from loosening over time.
- Select sites for mounting components that do not interfere with driver or passenger seating or leg space.
- Ensure that any wires or cable that attach to the item being mounted will not interfere with driver or passenger seating or leg space.
- Mount all components securely to prevent shifting that could cause injury or could interfere with safe vehicle operation. Always use the supplied mounting hardware.
- Only qualified personnel should install communication equipment. If necessary, contact the vehicle manufacturer for air bag information specific to the vehicle.

Caution: An air bag inflates with great force. DO NOT place objects, including communication equipment, in the area over the air bag or in the air bag deployment area. If the communication equipment is improperly installed and the air bag inflates, serious injury could occur.

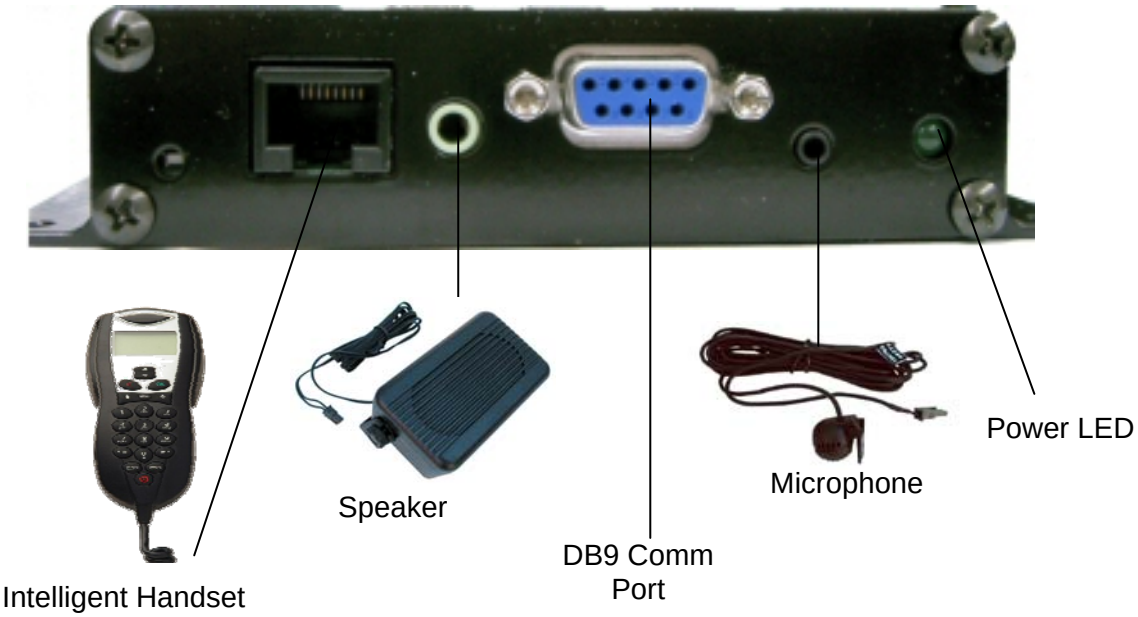
Installation Procedure

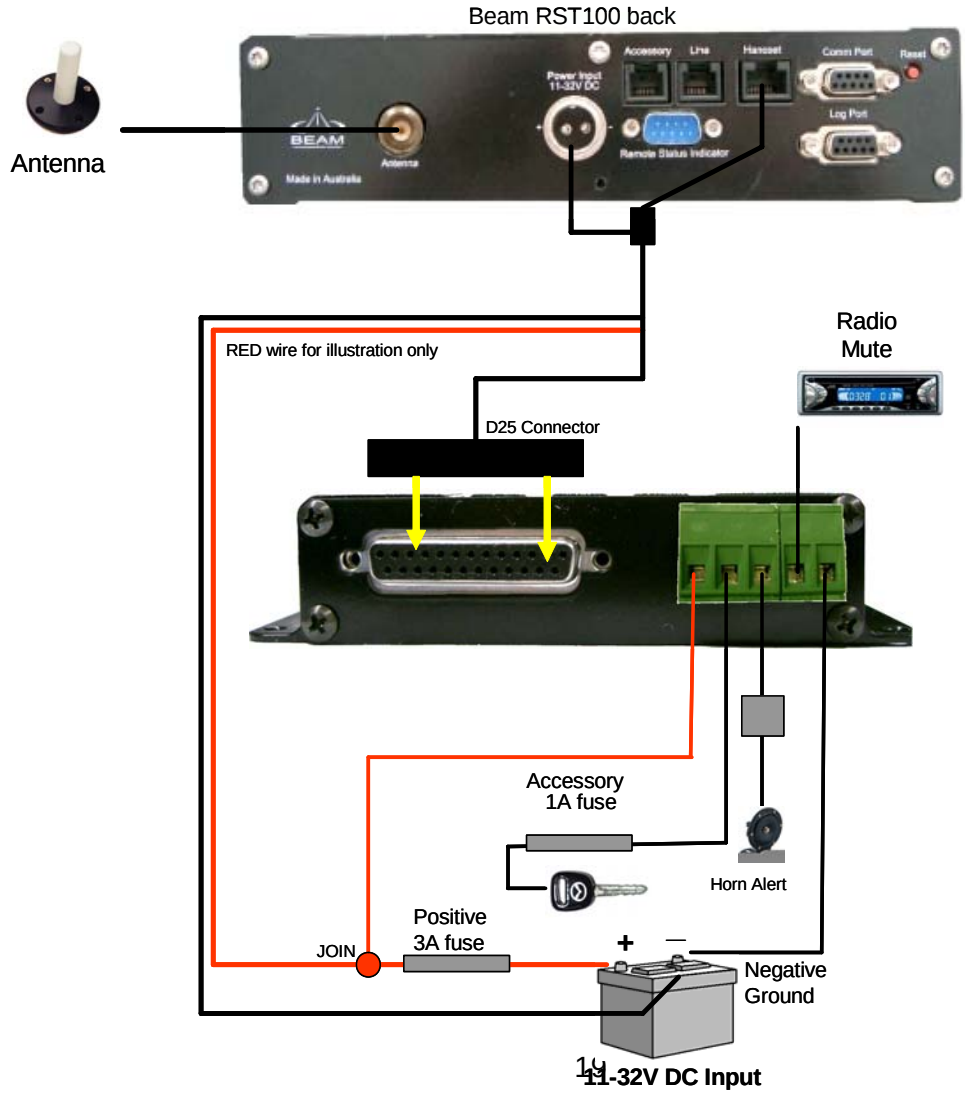
Install the components in the following order:

1. Mounting handset & holder
2. Mounting HFI, Hands Free Interface box
3. Mounting the Satellite Terminal
4. Connecting Power & Interface cables
5. Install directional microphone
6. Install speaker
7. Install terminal cable
8. Connecting 11-32V DC
9. Installing antenna
10. Installing antenna cable
11. Applying power

Prior to any fixing of components

Prior to affixing any components it is advisable to review the below schematic and ensure that the proposed installation of components will allow for sufficient cable distance between all components.





Installing the HFI Adapter Box

In most vehicles, the best location for mounting the HFI Adapter Box is under the dash or under the front seat.

The box must be protected from dirt and moisture and must have adequate space for cooling. The box also requires adequate space to allow for cable connection.

Ensure it is located within reach of the other components to be installed as well as an 11- 32Volt DC power.

To install the box, follow these steps:

- Using the Interface as a template, mark the whole locations.
- Remove the bracket, and use an awl or similar device to start the holes at the marked locations.
- Drill the holes.
- Mount the box using the six screws provided with the fuse kit.

Installing the Transceiver Module

Mount the Transceiver module in a safe location away from driver obstruction.

Ensure the distance between the transceiver module and the Hands Free Interface enables the D25 Connector cable to reach both units.

Use the Velcro tape supplied to conveniently attach the Transceiver module to a fixed surface.

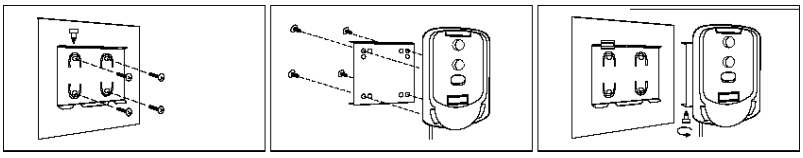
For ease of use, orient the handset hang-up cup vertically, with the spring-loaded clip toward the front of the vehicle.

Installing the handset / hang-up cup

Mount the hang-up Cup of the Intelligent Handset so that the smart handset is within easy reach of the driver during normal vehicle operation. Remembering that the handset needs to also connect to the Hands Free Interface.

Allow enough room so that you can easily insert the smart handset into and remove it from the hang-up cup.

For ease of use, orient the handset hang-up cup vertically, with the spring-loaded clip toward the front of the vehicle.



Connecting the Intelligent handset

Connect the Intelligent handset to the HFI kit where indicated below

1. Once the cradle has been installed in the desired, safest location, refer to above cradle installation information.

2. Connect the RJ45 Connector of the Intelligent handset to the Hands Free Interface.

Installing the Microphone

Follow these steps to mount the microphone:

To mount the microphone by simply installing the microphone cable in a concealed area, typically down the drivers pillar, the microphone can then be simply concealed in a location that is no greater than 45cm / 1’6” away from the driver.

The microphone can also be installed in the centre of the cabin if required so it is central to the vehicles interior space.

Follow these guidelines for positioning the microphone:

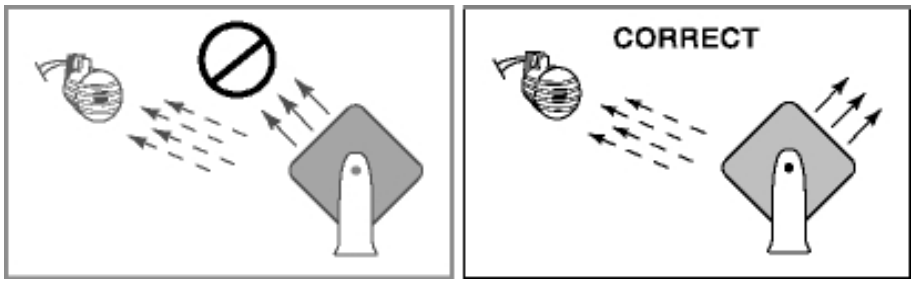
1. Do not place the microphone so that the visor can block it when flipped up or down.
2. Do not place the microphone where it is exposed to direct air flow from an open window
3. Route the cable carefully to ensure that it does not get crimped by any heavy objects or enclosures this will avoid damaging the cable.
4. Ensure the Microphone is not installed in a location that is subject to excessive driving or this may impact on the call quality.

Installing the Speaker

Follow these steps to mount the speaker:

1. Mount the speaker to the transmission hump or underneath the dashboard on the passenger side.
2. Do not mount the speaker so that it faces the microphone directly or this will cause heavy feedback within the system.
3. Route the cable carefully to ensure that it does not get crimped by any heavy objects or enclosures this will avoid damaging the cable.

Correct microphone/speaker positioning.



Installing the terminal Connector Cable

- Connect the cable to the RJ45 connector of the Beam Satellite terminal
- Ensure there is sufficient cable between the unit and the HFI kit
- Ensure the D25 Is securely connected to the HFI unit.
- Connect the connector as per the below diagram”

Connecting Power to the Interface unit

Caution: Failure to follow these steps may cause the accessory not to work properly and may cause damage to the phone.

Warning: Do not connect the terminal to the Battery Supply until the installation is complete.

1. Ensure the power and Interface cable to the Interface Unit will reach from the RST978 unit to the point at which vehicle power is being sourced DO NOT connect to the interface box until after the installation is complete.
2. Route the power cable from the RST973 Interface unit to the connection point.
3. Note: To limit ground loops and high impedance ground paths, run the green/red-stripe and black wires directly to the battery, or as close as possible to the battery. Use a grommet or other protection to prevent wear on metal surfaces for these wires.
4. Prepare the fuse block. Remove all fuses, and tape them to their respective holders, before making any connection. DO NOT insert fuses until you have completed and inspected all connections.
5. Connect the **BLACK** Ground wire to negative battery / vehicle chassis (if negatively grounded chassis).
6. Connect the **RED** +Batt wire to the vehicle + Battery (+12V) via a 3A fuse.
7. Connect the **GREEN** Accessory wire to the vehicle accessory power, via a 1A fuse. (This may be connected to Vehicle Ignition voltage if Accessory power is unavailable).

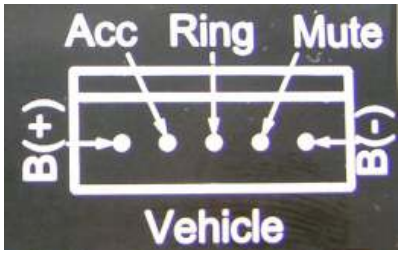
Caution: **DO NOT** replace any fuse with a higher amperage fuse.

Using the Connector Plugs

The connector plugs can be removed from the Hands Free Interface for easy wiring and then connected once completed.

The screw connector enables the cables to be securely fastened. Ensure that no wires are exposed once the screw is fastened to avoid blowing a fuse.

The cables should only be connected as specified according to the below diagram. The external ring alert and the Mute connector are for optional wiring. Refer to the earlier section for details.



1 3 2

<u>ELECTRICAL LEGEND</u>

1 - RED = +12v (B+)
2 - Black = GND (B-)
3 - Green = Accessory Power (Acc)

Radio Mute & Horn Alert: Output that switches to ground when active

Operation of the In-car kit

Now that you have completed all installation steps, follow these steps:

1. Ensure the Satellite terminal has power to the unit.
2. Ensure that the vehicle is located in an area where quality signal is available
3. Ensure the ignition is in ACC or ON position
4. The handset should now be showing registration on the network
5. Wait for the unit to register on the network
6. You are now ready to make and receive calls.

Checking Performance after Installation

To confirm that the phone is working properly, follow the instructions in this section.

Checking Phone Performance

1. Place a call. Place a call from the mobile and confirm proper operation.
2. Answer a call. Have someone place a call to the mobile, and confirm proper operation.

Checking the Entertainment Mute Feature

If the entertainment mute feature has been connected, check it by following these steps:

- Enable the entertainment mute feature. Prepare the mobile to receive test calls by enabling the entertainment feature. For instructions on enabling this feature, refer to the User Guide.
- Turn on the car radio and set the volume to an audible level.
- Place a call. Place a call from the mobile and verify that the car radio volume is muted.
- Answer a call. Have someone place a call to the mobile. Verify that the car radio volume is muted.

Important Notes:

The power to the terminal is dependent on the poser source chosen during installation. If power is required at all times even when the vehicles turned off then accessories input should be connected to constant 11-32V DC input.

Be aware of the possibilities of this however flattening the vehicle battery.

Troubleshooting the RST973

This chapter provides information to help you troubleshoot problems you may encounter while running the RST973

Q	The terminal and handset is not powering up
A	Check power is connected to the interface unit Ensure the satellite terminal has power Ensure the Connector cable to the terminal is firmly fitted Check all the connection cables to and from the interface units

Q	RST973 fails to register with the Iridium service after 30 seconds
A	Check connections Check Antenna connection and location Ensure SIM is inserted in the terminal

Q	The power button on the handset will not work
A	This is normal, the power button on the handset do not control the power of the terminal.

Q	I am unable to make a call
A	Check the antenna connection Check the connector cable Check the phone has power Check the phonies registered on the network Try switching the engine off and on again Try resetting the Remote terminal by power cycling the unit

Q	I am unable to register on the network
A	Check the antenna adaptor is connected correctly Check the antenna is not obstructed in anyway Ensure the antenna has not been damaged

Q	There a buzzing coming from the in-vehicle unit
A	Check the car radio is switched off whilst on a call Check there is no external interference from outside the vehicle, trains, large machinery, other communication equipment Check the microphone and antenna cabling

	Check the DC power input

Q	There is a lot of background noise on the call
A	Check the signal strength and that you have 5 bars to make a quality call. Check the location of the microphone, ensure it is not located near an air vent or too close to an open window Test on another call

Q	There is extreme echo on the call
A	Check the volume of the terminal is not on the highest setting as this will create echo, try turning it down a little Ensure the speaker and microphone are not positioned too close together Ensure that the microphone is not facing the speaker Relocate either or both if necessary

Q	Dropped calls
A	Keep in mind that this is a satellite network and when you are in motion form time time the satellite signal may become obstructed by such things as buildings, bridges, tunnels, larger vehicles. Check the antenna connection Ensure the antenna cable has not been damaged Ensure that only approved antenna cable has been used

Q	Poor voice quality
A	Ensure the signal strength is at 5 bars on the handheld terminal Check your location and for interference Keep in mind that on hands-free calls there may be background interference from environmental noise Remember all satellite network have a slight delay in the call

Q	Phone powers off once the ignition is switched of or the key is removed.
A	This is normal operation; however connecting the 12V Dc cable to a constant power source on the vehicle will rectify this.

Q	There is no Audio from the Speaker
A	Check that the speaker connector is installed directly to the HFI kit. Check the signal strength on the intelligent handset

Q	Party B cannot hear your voice
A	Check that the microphone connector is installed directly to the HFI kit. Check the signal strength on the handset

Q	You can't make calls.
A	Check that the antenna is properly mounted. Check you have connected the Antenna adaptor Do you have a clear view of the sky? Did you enter the number in international format? All calls made from the Iridium® System require a special calling sequence; please refer to your Service Provider for these details. Check the signal strength meter. If the signal is weak, move the vehicle to a more open area. Check the Network Selection settings. Check your Operator coverage map. Is Restricted displayed? Check the Call Barring setting. Has a new SIM card been inserted?

Q	You can't receive calls
A	Check to see that your phone is powered on. Check the antenna. Is it properly mounted? Do you have a clear view of the sky? Check the signal strength. If the signal is weak, move the vehicle to a more open area. Check the Call Forwarding and Call Barring settings. Check the Ringer setting. If it is off, there is no audible ringer.

Q	You can't make international calls.
A	Have you included the relevant codes? Press and hold the (+) key to display the international dialing prefix (+), and then enter the appropriate country code, followed by the phone number.

Q	Your PIN is blocked
A	Enter the PIN unblocking key (PUK1) or contact your service provider

Q	Your PIN2 is locked.
A	Enter the PIN2 unblocking key (PUK2) or contact our service provider.

Q	Your SIM card won't work.
A	• Is the card inserted the correct way? • Is the gold chip visibly damaged or scratched? Return the card to your service provider. • Check the SIM and phone contacts. If they are dirty, clean them with an antistatic cloth.

•

Q	You can't cancel call forwarding or call barring
A	Wait until you are in an area with good network coverage and try again.

•

Q	Your PIN is blocked
A	Check Card or Insert Card. Check the card is inserted correctly Check the contacts of the card are clean Clean the chip with a soft cloth See your Service Provider if continues

Using Your Intelligent Handset

Read this section to learn how to get up and running with your new satellite phone.

Turn the Power On and Off

The phone is powered on and off by the vehicles ignition system. Depending on how the unit has been wired the In-vehicle kit will work with Accessory power and or Vehicle ON power as controlled by the ignition key.

You can use the power control button on the handset to power the unit on/off.

The power button in this mode will turn the handset display off and turn off the Satellite Terminal.

When you turn your phone's power on, it performs a self test to let you know it is operational. You may see a number of other power-on messages (see below). When the 0 (no service) indicator disappears and the (home system) indicator appears, you are ready to start calling.

Power-On Messages

Once your phone is powered on, you may see:

Message	Description
Searching.	The phone is attempting to establish communications with the satellite network. See "Accessing the Network" for more information.
Registering	Your phone is registering with the network. When the process is complete, you will see Registered. See "Accessing the Network" for more information.
Enter Phone Unlock Code	Your phone was locked after the last use. Enter your four-digit unlock code and press to proceed. See "Locking and Unlocking Your Phone" for more information.

Message	Description
Enter PIN	Enter the four-to eight-digit SIM card PIN code provided by your service provider and press to proceed. See "Protecting the SIM Card" for more
Insert Card	Power off your phone; make sure your SIM card is inserted completely; and then power your phone on again.
Check Card	This message indicates that the SIM card is damaged or inserted the wrong way.
Blocked	If the SIM card PIN code is incorrectly entered three times in a row, your phone becomes blocked. See "Unblock the PIN Code" for instructions on how to to unblock it.
Blocked	If the SIM card PIN2 code is incorrectly entered three times in a row, your phone becomes blocked. See "Unblock the PIN2 Code" for instructions on how to unblock it.
Bad Card See supplier	Your SIM card has been damaged or incorrectly issued. Contact your service provider for information.

Phone Overview

Volume Keys

The Volume keys are on face of the handset as shown above. This controls the in call volume as well as the ring volume.

Placing a Call

To place a call, your phone must be powered on, have a SIM card inserted, be unlocked, and be in contact with the satellite network. See "Accessing the Network" for network information.

Making A Hands Free Call:

1. Enter the number you wish you call
2. Use the **+** symbol for international calls
3. Once the number is entered the Call?, will appear
4. **Press OK** to attempt call
5. To end call End Call? appears **press OK**
6. **To end call press C.**

Making A Private Call:

1. Remove handset from cradle/holder
2. Enter the number you wish you call
3. Use the **+** symbol for international calls
4. Once the number is entered Call?, will appear
5. **Press OK** to attempt call
6. To end call if End Call? appears **press OK**
7. **To end call press C** or replace handset in cradle

Refer to your Service Provider for calling Instructions:

If you make a mistake, **press C** once to delete the last digit, or **press and hold C** to clear all digits.
If the call connects and is answered, Connected appears on the display for a few seconds, followed by End Call?.

Automatic Redial

If the number or your network is busy, you will see Redial? for five seconds.
Press OK to redial the number automatically.
Note: The maximum number of redial attempts is set by your service provider.
If the call cannot be connected within this maximum, you will see the message Redial failed.

Redial Last Number Called

Whenever your phone is on standby, you can redial the last number called

1. **Press OK** to display the last number dialed.
2. **Press OK** again to place the call.

International Dialing

To make an international phone call:

1. **Press and hold ***

After a few seconds the international dialing prefix + appears in the display. This allows you to call from any country without knowing the local international access code.

2. Enter the country code followed by the phone number. The country code follows the conventional format.

Dial a Number from the Phone Book

Your phone contains a phone book that you can use to store names and telephone numbers. Once you have stored information in your phone book, you can save dialing steps by using:

- one-touch dialing
- an entry from a location
- an entry of a name
- one of the last ten numbers called Make an Emergency Call

Emergency Number Dialing

Refer to your service provider for availability of this service.

Call a Number in a Message

Ending a Call

To end a call, perform one of the following tasks:

- **Press C** or if End Call? appears **press OK**
- Replace the handset in the hang-up cup, for an in-vehicle installation

Receiving a Call

Receive a Phone Call

To receive a call, your phone must be powered on, have a SIM card inserted, be unlocked, and be in contact with the satellite network. See "Accessing the Network" for network information.

Receiving a Hands-free Call: When In-car unit fitted

1. In call alert leave the handset in the hang-up cup
2. **Press OK** to answer call
3. Direct your conversion to the hands-free mic
4. To end call End Call? appears **press OK**
5. **To end call press C**

Receiving A Personal Call on the handset:

1. In call alert, remove handset from hang-up cup
2. Call should answer if removed from hang-up cup
3. Direct your conversion to the handset
4. To end call End Call? appears **press OK**
5. **To end call press C**

Unanswered Calls

If you are away from your phone or choose not to answer a call, your phone displays
the message Unanswered Cal 1.

Voicemail Mailbox

Callers who are unable to reach you can leave voice messages if this feature is active. You will also need to ensure your diversions have been set to perform this. The next time you register with the satellite network, you will receive notification of voice messages being left in your mailbox / voicemail.

Changing From Private to Hands-free: (If In-car unit fitted)

1. **Press** **mute** key on the handset
2. Replace the handset into the hang-up cup
3. You are now in direct conversation with Speaker & Mic

OR

1. **Press** **MENU** key until ‘mute’ appears then press okay
2. Replace the handset into the hang-up cup
3. You are now in direct conversation with Speaker & Mic

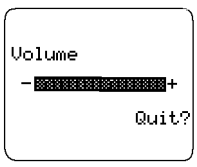
CAUTION: If you return the handset to the hang-up cup without muting first, your call will end.

Adjusting Earpiece Volume

To adjust earpiece volume:

Increase the volume by pressing the upper volume key.

Decrease the volume by pressing the lower volume key.
As you press the keys, the phone's speaker demonstrates the new volume level. The bar graph in the display represents the volume level. The higher the graph, the louder the volume.



Adjusting Ringer Volume: In-car kit use only

Use this feature to adjust the volume of the ringer. The phone sounds the new volume level as you adjust it.
To adjust the ringer volume:

1. **Press** MENU until you see Phone Setup, and then **press** OK
2. **Press** MENU until you see Adjust Ring Volume, and then **press** OK to select.
3. **Increase** the volume by pressing the upper volume key.

or

3. **Decrease** the volume by pressing the lower volume key.
4. **Press and hold** C to exit the menu.

Using In-Call Features

Muting a Call

For privacy during a call, try muting the phone. You hear the party on the other end, but the other party does not hear you.

To unmute a call:

While in a call **press the Mute key**.

or

Press MENU until you see Turn Mute on or off.

Press OK to select. You will see Mute.

To unmute a call:

Press Mute Key again.

or

Press MENU until you see Turn Mute on or off.

Press OK to unmute.

Using the Menus

Many of your phone's features are organized into lists of options called menus. There are three menus: the Options menu, the Quick Access menu, and the In-Call menu. Some of these options give you access to additional lists of options called submenus. Learn how to navigate through your phone's three main menus.

What You Will Learn

- using the Options menu
- using the Quick Access menu
- using the In-Call menu
- Using the Options Menus

Navigate the Options Menus

Learning how to use just a few keys enables you to move freely through the entire menu system.

If you want to...	Then...
enter the Options menu	**Press** MENU to access the Options menu. You will see the first available submenu.
scroll through the Options menu	**Press** MENU to scroll forward. **Press *** or # to scroll backward or forward.
select options and submenus	**Press** OK to select a menu option or submenu when that option or submenu name is displayed.
exit features and menus	**Press e** to exit the feature or submenu. **Press and hold** e to exit the Options menu.

Note: If you **press** MENU during a call, you will see the In-Call menu.

Using the Quick Access Menu

The Quick Access menu is a way to keep your favourite menu options readily accessible. Each digit key, has a Quick Access feature assigned to it.
If you know the number of the feature, activating that option takes only two button pushes! If you do not know the number or want to review your options, just scroll through the icon menu and read the tag attached to each option.

Activate the Feature Directly

To access the feature directly:

Press MENU, and then **press** the digit key of the feature.

Scroll to the Feature

To scroll to the feature:

Press MENU to scroll through the available features.

or

Press * or # to scroll backward and forward.

Press OK to select a feature.

Default Quick Access Settings

Menu Number	Quick Access Feature
1	Find Name searches your Phone Book by the full name.
2	Check Signal checks the strength of the signal from the satellite
3	Call Voicemail calls your Voicemail number to check your Voice
4	Mute Phone mutes the phone.
5	Lock Now locks your phone immediately.
6	Adjust Ring displays and sets the incoming call ring tone volume.
7	Read Messages displays the newest message received
8	Register Now initiates a systematic manual search for a networ which to register. You must wait three minutes between registra attempts.
9	Forward On/Off activates or deactivates unconditional call forwa depending on the current setting.

Using The In-Call Menu

This menu lets you access specific features while you are in a call. Because this menu is not available until you are actually in a call, you cannot review it off-line.

Entering the In-Call Menu

While you are in a call:

Press MENU to view the In-Call menu features.

In-Call Menu Features

The In-Call menu dynamically changes depending on the type of call you are in.

Managing the Phone Book

Your satellite phone can store up to 100 names and numbers, and your SIM card expands memory capacity even more.
Use the dedicated keys or the Options menu to access the same functions. With the Options menu you can also access Phone Book maintenance and security features.

What You Will Learn

- recalling and storing phone numbers
- organizing the Phone Book
- accessing automated calling systems
- storing phone number prefixes
- editing the memory information

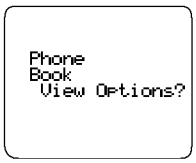
Entering the Phone Book Menu

To enter the Phone Book menu:

1. **Press** **MENU** to open the Options menu.
2. **Press** **MENU** to scroll forward.

or

1. **Press** ***** or # to scroll backward or forward.
2. **Press** **OK** when you see:



Organizing Your Phone Book

Each name and phone number in your Phone Book is stored in a numbered memory location. The satellite phone has two types of memory—phone memory and SIM card memory.

	Phone Memory	SIM Card Memory'
Personal Numbers	100 entries	155 entries
Phone Number Digits	32	20
Name Characters	16	16
Location Numbers	1-100	101-255

SIM card capacity varies depending upon the card issued by your service provider. Your phone's memory can seem overwhelming if you do not have a strategy for organizing your Phone Book. Begin setting up your Phone Book by asking yourself these questions:

Which numbers do I call most?
Make a list of the numbers you call most frequently. You will probably want to store these numbers in the first nine memory locations of your Phone Book. You can then dial them with a single keystroke by using One-Touch dialing.

When do I use these numbers?
Group the numbers on the list according to when you use them. Most people call a different set of numbers during the day than they do in the evening and on weekends. You can switch one-touch dialing to your phone's memory (locations 1-9), your SIM card's memory (locations 101-109), or to your fixed dial list (locations 1-9). Store your evening and weekend numbers on one type of memory and your daytime numbers on another.

Getting to Personal Numbers...

1. **Press** **MENU** until you see Phone Book, and then **press** **OK**.
2. **Press** **MENU** until you see Personal Numbers, and then **press** **OK**.
3. **Press** **MENU** to scroll to one of the features described below.

Storing Names and Numbers

Add an Entry

Use the Options Menu

1. Follow the steps in "Getting to Personal Numbers..." to get to Add Entry, and then **press** OK.
2. **Press** MENU to scroll to Add to Phone Memory or Add to SIM Memory.
3. **Press** OK to select. You will see Enter Number.
4. **Enter a number**, and then **press** OK. You will see Enter Name.
5. **Enter a name** and then **press** OK. You will see Enter Location.
6. **Enter a location number**, 1-100 for phone memory or 101-255 for SIM memory*, and then **press** OK. You will see Stored XXX.

Or

1. **Press** OK to select the next available location. You will see Stored XXX.
2. **Press and hold** OK to exit the menu.

Entering Names

You can use the keypad to produce any letter in the alphabet. For example, press 2 to enter the letters A, B, or C, as shown:

Correct an Entry

To make a change:

1. **Press *** or # to scroll to the character you want to delete.
2. **Press** OK to delete one character at a time.

Or

2. **Press and hold** C to clear the display.

Calling, Modifying, or Erasing an Entry

Once you have selected a Phone Book entry, you can call, change, or erase that entry.

Call a Selected Entry

1. Find an entry, and then **press** OK. See Locating Entries
2. **Press** MENU until you see Call Number, and then **press** OK. You will see Calling followed by the number you dialed.

Modify a Name or Number

1. Find an entry, and then **press** OK.
2. **Press** MENU until you see Modify Name or Number, and then **press** OK. You will see Edit Number, followed by the phone number stored in that entry.
3. Enter changes to the number, and then **press** OK. You will see the name stored in that entry.
4. Enter changes to the name, and then **press** OK. You will see Modified XXX.

Erase a Name and Number

1. Find an entry, and then **press** OK.
2. **Press** MENU until you see Erase Name and Number, and then **press** OK. You will see Erased xxx.

Storing Your Voicemail Number

To store a voicemail number:

1. Go to “Message Settings”, and then **Press** OK to select.
2. **Press** OK to select Voicemail Number. You will see Enter Voicemail Number followed by your current voicemail number. If this is the first time you have stored a number, continue with to step 4.
3. **Press** C to clear one digit at a time, or **press and hold** C to erase the entire number.
4. Enter the new number, and then **Press** OK. You will see Completed.
5. **Press and hold C** to exit the menu.

Managing Your Messages

How Your Phone Notifies You of Messages

If your phone is powered on, it notifies you of received messages in the following ways:

- An alert sounds.
- Your phone beeps three times to inform you of an incoming message.
- The (message) indicator is displayed.
- The message is displayed immediately if the message is a voicemail notification message. The message remains on the display for several seconds.

  or

Message Read Now? is displayed if the message is an alphanumeric, text message of up to 160 characters. For more information see "Read a New Message"

How Messages Are Stored

Your phone stores all messages on your SIM card. The total number of messages that you can store depends on your service provider.
If the message indicator is flashing, your SIM card is full. See "Delete Messages" to make room for the new message.

What Messages Contain

You can receive short text or numeric messages in your Personal Mailbox. Text messages may contain up to 160 characters.
Messages contain multiple screens with the following information:

- the message
- the date and time the message was sent
- the phone number (if available) from which the message was sent

Accessing Your Messages...

1. **Press** MENU until you see Messages, and then **press** OK.
2. **Press** MENU until you see Received Messages, and then **press** OK.
3. **Press** MENU to scroll to one of the features described below.

Read a New Messages Notification Message

When you receive an incoming fax or voicemail notification message, it automatically scrolls across your screen. You can:

- **Press** OK to store it on your SIM card.
- **Press** OK to delete it.

Text Messages

When you receive a new alphanumeric message, you will see Messa[g]e Read Now? To read it:

Press OK and continue with step 2.

or

Press [0K] to read the message later.

Read a Stored Message

To read a stored message:

1. Follow the steps in "Accessing Your Messages..." to enter the message menu. If you have messages you will see the number of messages stored. If you do not have any messages, you will see No Messages.
2. **Press** [MENU] to move forward through a message one screen at a time.
3. **Press** [OK] to access options for that entry, or **Press and hold C** to exit the menu.

Delete Messages

Use this option to make room for new messages:

1. Follow the steps in "Go to the Next Message" until you see the message you want to delete, and then **press** [C]
2. **Press** [MENU] until you see Delete Message, and then **press** [OK]. You will see Message Deleted.
3. **Press and hold** [C] to exit the menu.

Accessing Your Messages...

1. **Press** [MENU] until you see Messages, and then **press** [0K].
2. **Press** [MENU] until you see Received Messages, and then **press** [0K].
3. **Press** [MENU] to scroll to one of the features described below.

Go to the Next Message

To go to the next message:

1. Follow the steps in "Read a Stored Message"
2. **Press** [MENU] until you see Go To Next Message and then press [0K].
   You will see the next message. If you are at the end of your message list you will see the first message again.
3. **Press** [MENU] to move forward through a message one screen at a time.
4. **Repeat steps 2 to 3** until you have read all your messages.
5. **Press and hold** [C] to exit the menu.

Return a Call from number in message

A callback number appears in quotes within the message. If one is enclosed, you can instantly place a call to that number. If one is not included, your phone selects the first number in the message.

1. Follow the steps in "Go to the Next Message" to display the desired message, and then **press** **OK**
2. **Press** **MENU** until you see Return Cal 1.
3. **Press** **OK** to place a call to that number. You will see the number followed by Calling.

Customizing Phone Features

Once you are comfortable with the basic features of your new phone, use this chapter to set up your phone the way you like it.

What You Will Learn

- adjusting your phone's ringer volume
- choosing from ten different ringer styles
- choosing your phone's keypad tones
- locking and unlocking your phone
- changing and setting codes for security
- resetting or clearing your phone's settings
- selecting the language displayed by your phone

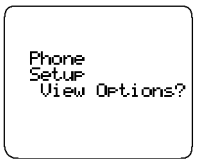
Entering the Phone Setup Menu

To enter the Phone Setup menu:

1. **Press** MENU to open the Options menu.
2. **Press** MENU to scroll forward.

or

1. **Press *** or # to scroll backward or forward.
2. **Press** when you see:



Press MENU to scroll through the submenu.

or

Press * or # to scroll backward or forward through the submenu.

Getting to Phone Setup...

1. **Press** MENU until you see Phone Setup, and then **press** OK**.**
2. **Press** MENU to scroll to one of the features described below. You will see the feature name, followed by Select?.

Adjusting the Ringer Volume

Use this feature to adjust the volume of the ringer. The phone sounds the new volume level as you adjust it.

1. Follow the steps in "Getting to Phone Setup..." to get to Adjust Ring Volume, and then **press OK** to select.
2. **Increase** the volume by pressing the upper volume key.

or

1. **Decrease** the volume by pressing the lower volume key.
2. **Press and hold C** to exit the menu.

Setting the Ringer Tone

Select your favourite tone from 10 different options.

1. Follow the steps in "Getting to Phone Setup..." to get to Set Ringer Tone, and then **press OK** to select.
2. **Press MENU** to scroll through the following options:

   Standard Tone
   Single Ring Tone
   British Tone
   French Tone
   German Tone
   Bravo Tone
   Three Ring Tone
   Siren Tone
   Quick Tone
   High Tone

   You will hear a one-ring-cycle demonstration.
3. **Press OK** to select the desired option.
4. **Press and hold C** to exit the menu.

Getting to Phone Setup...

1. **Press MENU** until you see Phone Setup, and then **press OK**
2. **Press MENU** to scroll to one of the features described below. You will see the feature name, followed by Select?.

Setting the Keypad Tones

Choose the sounds your phone makes when its keys are pressed.
Note: This feature is available only when the extended menus are activated. See "Activating Extended Menus"

1. Follow the steps in "Getting to Phone Setup..." to get to Select Keypad Tones, and then **press OK** to select.
2. **Press MENU** to choose Normal Tones, Single Tone, or No Tones, and then **press OK**
3. **Press and hold C** to exit the menu.

Locking and Unlocking Your Phone

These features can help you prevent unwanted use of your phone.

Lock the Phone Automatically

Use this feature to set your phone to lock itself every time it is powered on.

1. Follow the steps in "Getting to Phone Lock..." to get to Automatic Lock, and then **press OK** to select.
2. **Press MENU** to choose On or Off, and then **press 0** to select. You will see Completed.
3. **Press and hold 0** to exit the menu.

Lock the Phone Instantly

Use this feature to lock your phone immediately.

1. Follow the steps in "Getting to Phone Lock..." to get to Lock Now.
2. **Press OK** to select. You will see Locked.

Note: Once you unlock your phone, it remains unlocked until you lock it again.

Unlock the Phone

1. **Enter unlock code**. Enter your four-digit phone unlock code.
2. **Press OK.**

Change the Unlock Code

The unlock code is originally set to 1234. You should change it as soon as possible.

1. Follow the steps in "Getting to Phone Lock..." to get to Change Unlock Code, and then **press** **OK** to select. You will see Enter Security Code.
2. **Enter security code**. Enter your six-digit security code. You will see your current lock code and **Enter Phone Unlock Code**.
3. **Press** **0** to clear one digit at a time, or **press and hold** **C** to clear all the digits.
4. **Enter new code**. Enter a new four-digit unlock code, and then **press** **OK**. You will see Phone Lock and the new lock code.
4. **Press and hold** **C** to exit the menu.

Getting to Require SIM Card PIN...

1. **Press** **MENU** until you see Phone Setup, and then **press** **OK**.
2. **Press** **MENU** until you see Require SIM Card PIN, and then **press** **0**.
3. **Press** **MENU** to scroll to one of the features described below. You will see the feature name, followed by View Options?.

Protecting the SIM Card

You can use a Personal Identification Number (PIN) code to protect the information stored on your SIM card even when it is inserted into someone else's phone.

Activate and Deactivate the SIM Card PIN Code

When you activate the SIM card PIN code, your phone requests the code whenever the phone is powered on. To change this setting, you need to enter the PIN code that your service provider gave you.

1. Follow the steps in "Getting to Require SIM Card PIN...".
2. **Press** **MENU** to scroll to On or Off, and then **press** **OK**. You will see Enter PIN.
3. **Enter PIN code**. Enter the four- to eight-digit PIN code your service provider gave you, and then **press** **OK**. You will see Completed.
3. **Press and hold** **C** to exit the menu.

Getting to Require SIM Card PIN...

1. **Press** MENU until you see Phone Setup, and then **press** OK
2. **Press** MENU until you see Require SIM Card PIN, and then **press** OK
3. **Press** MENU to scroll to one of the features described below. You will see the feature name, followed by View Options?.

Change the SIM Card PIN Code

To choose your own PIN code:

1. Follow the steps in "Getting to Require SIM Card PIN..." to get to Change SIM Card PIN, and then **press** OK to select. You will see Enter Old PIN.
2. **Enter the current PIN code**, and then **press** OK. You will see Enter New PIN.
3. **Enter a new PIN code**, and then **press** OK. You will see Repeat New PIN.
4. **Re-enter the new PIN code**, and then **press** OK again. You will see Completed.
5. **Press and hold** C to exit the menu.

Unblock the PIN Code

If your PIN code is entered incorrectly three times in a row, Blocked appears in the display. You need to enter a PIN unblocking key (PUK1), which you can obtain from your provider

Getting to Phone Setup...

1. **Press** MENU until you see Phone Setup, and then **press** OK.
2. **Press** MENU to scroll to one of the features described below. You will see the feature name, followed by Select?.

Selecting the Display Language

Note: This feature is available only when the extended menus are activated. See "Activating Extended Menus"

1. Follow the steps in "Getting to Phone Setup..." to get to language selection, and then **press** OK to select.
2. **Press** MENU to scroll through the choices, and then **press OK** to select the displayed option.
3. **Press and hold** C to exit the menu.

Reset Options to Factory Defaults

Use the master reset option to reset all settings to their original default settings. The master reset option:

- resets audible call timers, the in-call timer, and the automatic lock
- resets extended menus to default setting
- restores keypad tones to normal, ringer tone to standard, and the volume level to the middle (fourth bar) of its range

To reset all settings:

1. Follow the steps in "Getting to Phone Status..." to get to Master Reset, and then **press** **OK** to select. You will see Enter Security Code.
2. Enter your six-digit security code. You will see Reset Complete.
3. **Press and hold** **C** to exit the menu.

Clear All Stored Information

The Master Clear option resets the same items as Master Reset, plus the following:

- clear phone book entries from phone memory (not from SIM memory)
- clear last calls made list
- reset resettable call timers

Master Clear does not clear the:

- fixed dial list
- my number(s) list
- received messages list

To clear the settings:

1. Follow the steps in "Getting to Phone Status..." to get to Master Clear, and then **press** **OK** to select. You will see Enter Security Code.
2. Enter your six-digit security code. You will see Reset Complete.
3. **Press and hold** **C** to exit the menu.

Accessing the Network

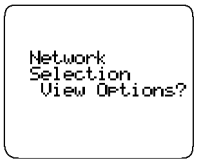
Entering the Network Selection Menu

To enter the Network Selection menu:

1. **Press** MENU to open the Options menu.
2. **Press** MENU to scroll forward.

or

2. **Press *** or # to scroll backward or forward.
3. **Press** OK when you see:



4. **Press** MENU to scroll through the submenu.

or

5. **Press *** or # to scroll backward or forward through the submenu.

Getting to Network Selection...

1. **Press** MENU until you see Network Selection, and then **press** OK.
2. **Press** MENU to scroll to one of the features described below. You will see the feature name, followed by Select?

Registering With the Satellite Network

Your phone searches for the Iridium satellite network.

1. **Follow the steps in** "Getting to Network Selection..." to get to Register Now.
2. **Press** 0 to select. You will see Registering…. This may take a few seconds.

If the phone finds the signal, you will see Registered and the signal strength indicator: The (home system) indicator appears.
If the phone is unsuccessful you may see one of these messages: System Busy, Restricted Area, or Weak Signal.
Note: You must wait three minutes between registration attempts.

Getting to Show Call Timers...

1. **Press** MENU until you see Call Meters, and then **press** OK.
2. **Press** MENU until you see Show Call Timers, and then **press** OK.
3. **Press** MENU to scroll to one of the features described below.

Showing Call Timers

This submenu helps you track your airtime. Keep a running tab of your monthly usage or view the airtime of your most recent call.

Show the Time of the Last Call

Use this feature to display the elapsed time of your most recent call.

1. **Follow the steps in** "Getting to Show Call Timers..." to get to Show Last Call, and then **press** OK to select.

   You will see the airtime of the most recent call in hours, minutes, and seconds. After several seconds, the display returns to Show Last Call

2. **Press and hold** C to exit the menu.

Show Total Time for All Calls

Use this feature to display your total airtime since you last reset the Call Timer.

1. **Follow the steps in** "Getting to Show Call Timers..." to get to Total For All Calls, and then **press** OK to select.

   You will see the airtime accumulated since the timer was last reset. The airtime is displayed in hours, minutes, and seconds. After several seconds, the display returns to Total For All Calls.

2. **Press and hold** C to exit the menu.

Getting to Audible Call Timers...

1. **Press** MENU until you see Call Meters, and then **press OK.**
2. **Press** MENU until you see Set Audible Call Timers, and then **press** OK
3. **Press** MENU to scroll to one of the features described below.

Setting Audible Call Timers

Let your phone watch the clock for you. The call timers signal at a set time or interval with beeps only you can hear.

Set the Single Alert Timer

Use this feature to set your phone to alert you after an elapsed time.

1. **Follow the steps in** "Getting to Audible Call Timers..." to get to Single Alert Timer, and then **press** OK to select.
2. **Press** MENU to scroll to On or Off, and then **press** OK to select.
   - If you select On, you will see Enter Seconds. Continue with **step 3.**
   - If you select Off, you will see Completed. Continue with **step 4.**
3. **Press** 0 to accept the current setting. You will see Seconds XXX.

or

3. **Enter a number** from 11 to 999, and then **press** OK. You will see Seconds XXX.
4. **Press and hold** C to exit the menu.

Set the Repetitive Timer

Use this feature to set your phone to alert you at specific intervals, for example every 45 seconds.

1. **Follow the steps in** "Getting to Audible Call Timers..." to get to Repetitive Timer, and then **press** OK to select.
2. **Press** MENU to scroll to On or Off, then **press** OK to select.
   - If you select On, you will see Enter Seconds. Continue with **step 3.**
   - If you select Off, you will see Completed. Continue with **step 4.**
3. **Press** OK to accept the current setting. You will see Seconds XXX.

or

3. **Enter a number** from 11 to 999, and then **press** OK. You will see Seconds XXX.
4. **Press and hold** C to exit the menu.

Setting Up Your Accessories

This menu can make using your phone while driving a little easier. You can set your phone to answer automatically after two rings, set a timer to power the phone with the car, automatically mute the radio

What You Will Learn

- muting your car radio automatically when you make or receive a call
- setting your phone to answer automatically after two rings

Entering the Accessory Setup Menu

To enter the Accessory Setup menu:

1. **Press** MENU to open the Options menu.
2. **Press** MENU to scroll forward.

or

2. **Press** * or # to scroll backward or forward.
3. **Press** OK when you see:

4. **Press** MENU to scroll through the submenu.

or

4. **Press** * or # to scroll backward or forward through the submenu.

Mute Car Radio

This feature automatically mutes your car radio when you make or receive a call.
Note: This feature works with your car radio's mute feature. The Mute Car Radio feature will not work if your radio does not have a mute feature.

1. **Follow the steps in** "Getting to Accessory Setup..." to get to Mute Car Radio, and then **press** OK to select.
2. **Press** MENU to scroll to On or Off, and then **press** OK to select.
3. **Press and hold** C to exit the menu.

Activate/Deactivate Extended Menus

Use the Options menu to activate and deactivate extended menus. Activate them when you need access to every feature. Deactivate them for everyday use.

1. **Press** MENU until you see Phone Setup, and then **press** **OK** to select.
2. **Press** MENU until you see Extended Menus, and then **press** **OK** to select.
3. **Press** MENU to scroll to either On or Off, and then **press** **OK** to select.

All hidden features are accessible when you activate the extended menus.

Access Hidden Features

If you want to access a feature hidden in the extended menus, but don't want to leave the extended menus active, you can use this shortcut:

Press and hold MENU for a few seconds.

All extended menus features remain accessible until you exit the Options menu.

Troubleshooting the RST973

This chapter provides information to help you troubleshoot problems you may encounter while running the RST973.

Q	No power on RST973
A	Check power is connected to the terminal and the HFI units.

Q	RST973 fails to register with the Iridium service after 30 seconds
A	Check power connection Check Antenna connection and location Ensure SIM is inserted Check correct power supply is being used

Q	There is no Display on the Intelligent Handset
A	Check if it is connected to the Handset connector. Try resetting the terminal by pressing the reset button.

Q	There is no Audio from the Speaker
A	Check that the speaker connector is installed directly to the HFI kit. Check the signal strength on the intelligent handset

Q	You can't make calls.
A	Check that the antenna is properly mounted. Do you have a clear view of the sky? Did you enter the number in international format? All calls made from the Iridium® System require a special calling sequence, please refer to your Service Provider for these details. Check the signal strength meter. If the signal is weak, move the vehicle to a more open area. Check the Network Selection settings. Check your Operator coverage map. Is Restricted displayed? Check the Call Barring setting. Has a new SIM card been inserted?

Q	You can't receive calls
A	Check to see that your phone is powered on. Check the antenna. Is it properly mounted? Do you have a clear view of the sky? Check the signal strength. If the signal is weak, move the vehicle to a more open area. Check the Call Forwarding and Call Barring settings. Check the Ringer setting. If it is off, there is no audible ringer.

Q	You can't make international calls.
A	Have you included the relevant codes? Press and hold the (+) key to display the international dialing prefix (+), and then enter the appropriate country code, followed by the phone number.

Q	Your PIN is blocked
A	Enter the PIN unblocking key (PUK1) or contact your service provider

Q	Your PIN2 is locked.
A	Enter the PIN2 unblocking key (PUK2) or contact our service provider.

Q	Your SIM card won't work.
A	• Is the card inserted the correct way? • Is the gold chip visibly damaged or scratched? Return the card to your service provider. • Check the SIM and phone contacts. If they are dirty, clean them with an antistatic cloth.

Q	You can't cancel call forwarding or call barring
A	Wait until you are in an area with good network coverage and try again.

Q	Your PIN is blocked
A	Check Card or Insert Card. Check the card is inserted correctly Check the contacts of the card are clean Clean the chip with a soft cloth See your Service Provider if continues

Q	Party B cannot hear your voice
A	Check that the microphone connector is installed directly to the HFI kit. Check the signal strength on the handset

Glossary

A

airtime The amount of time you spend using the satellite system. Especially, the time between successfully placing a call and terminating a call.

antenna The device attached to your phone by a cable that sends and receives satellite signals.

D

default A feature's original setting as pre-programmed in the factory.

DTMF See Dual Tone Multi-Frequency tones.

Dual Tone Multi-Frequency Tones The tones that your phone transmits when you press a key on the keypad. These tones are used to access automated calling systems such as voicemail.

E

emergency call

I

In-Call menu The menu that appears when you press during a call. It allows you to access features like call holding.

Indium system A system of 66 satellites that offer global communication.

L

lock Use this feature to prevent unauthorized access to your satellite telephone.

M

memory location A space in the internal Phone Book (both phone memory and SIM memory) where you can store a telephone number and a name. Each phone memory location can hold up to 32 digits and 16 letters. The SIM card memory can hold up to 20 digits and 16 letters.

menu feature Any feature that can be accessed through the menu system.

menu system The hierarchical arrangement of your phone's features that allows for quick, intuitive access.

N

name directory An alphabetical list of the names and telephone numbers you have stored into your phone's internal Phone Book.

O

one-touch dialing To use this feature, press and hold a number on the keypad, **0** through and your call is placed.

Options menu The top level of the menu system hierarchy, which contains the seven main feature menus: Phone Book, Call-Related Features, Messages, Phone Setup, Network Selection, Call Meters, Accessory Setup.

P

PIN code Personal Identification Number code. A private numeric password that prevents unauthorized access to your SIM card.

PIN2 code A private numeric password that prevents unauthorized access to your SIM card's fixed dialing settings.

prompt A message requesting input.

Q

Quick Access menu A set of features activated by pressing Menu and a digit key (1 to 9).

S

scroll To move backward or forward through a list; for example: to move backward or forward through the menu system or the name directory.

security code A six-digit code used to access sensitive features.

service provider A company affiliated with a satellite carrier that provides satellite service to its customers.

signal The radio waves that carry information between your phone and the satellite system.

submenu A secondary level of your phone's menu system hierarchy.

T

talk-time The amount of time that you spend talking on the phone.

toggle To switch between two possible options; for example: on versus off.

U

unlock code A four-digit code used to unlock a locked phone.

V

volume keys Located on the side of your phone, the upper and lower volume keys are used to adjust phone volume.

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3. Beam Communications will correct any defects in material or workmanship of products manufactured by Beam which appear within (12) months, from the date of shipment by Beam Communications to the Customer. Beam Communications will repair or replace, at our option, any defective product, provided that our analysis and/or inspection discloses that such defects developed under normal and proper use.
4. This warranty does not extend to goods subjected to liquid or particulate ingress, extreme humidity, misuse, neglect, accident or improper installation, or to maintenance or repair of products that have been altered or repaired by anyone except Beam Communications unless otherwise stated in writing.
5. The warranty is a return-to-base warranty and freight is paid by the sender.
6. A charge of USD150 including return freight will be made for testing returned product which is not defective or is found to be defective as the result of improper use, maintenance or neglect.
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